# Index


## • A •

ABC (ActionScript Byte Code), 32, 35
accelerometer, 17, 246–251, 386–388
`Accelerometer`, 247
`AccelerometerEvent`, 247
access modifiers, 102
ACCESS_COURSE_LOCATION
  permission setting, 302
ACCESS_FINE_LOCATION
  permission setting, 302
ACCESS_NETWORK_STATE
  permission setting, 302
accessor (getter) method, 144
ACCESS_WIFI_STATE permission
  setting, 302
Acknowledge the Export Compliance field,
  Android Market upload (website), 407
ActionScript 3.0
  animation using code, 226–232
  bitmap caching, 118–119
  compiling and packaging overview, 32, 33
  Document Class, creating, 89–93
  E4X feature, 175–177
  exporting symbols to, 66
  Garbage Collector, 120
  initializing your app, 93–95
  library component referencing, 95–98
  as logic writing tool with Flex, 271
  memory management, 120–123
  multiple display object initializing, 98–106
  performance enhancements, 124–126
  programmatic filters, 117–118
  requirement for, 89
  testing your code, 126–132
  user interaction event registration, 106–117
*ActionScript 3.0 Bible* (Braunstein), 132
ActionScript Byte Code (ABC), 32, 35
ActionScript Virtual Machine 2 (AVM2), 33
Ad Hoc Distribution, 332, 339–340, 372–378
ADB (Android Debug Bridge) tool,
  314–315, 317–318
ADDED_TO_STAGE event, 93
addEventListener(), 123, 198
adding compared to multiplying,
  speed of, 125
ADL (AIR Debug Launcher), 83
Adobe AIR. *See also entries beginning with* AIR
  defined, 10
  hiding specific code for Device Central
    testing, 384–386
  local databases, 159–160
  SDK on Flash Professional, 28–29
Adobe Corporation
  Apache Module tutorial (website), 213
  Apple's problems with Flash, 11–12
  developer deployment options for
    mobile devices, 12
Adobe Creative Suite (CS) (website), 43
Adobe Developer Connection (website),
  117
Adobe Device Central, 383–388, 435
Adobe Flash Builder 4.5 (IDE). *See also*
  Flex SDK
  development environment orientation
    (website), 276
  as development tool (website), 2
  downloading and installing (website),
    271–272
  Flash Professional, compared to, 45
  Network Monitor, 392–394
  Performance Profiler, 394–397
  starting a project, 272–277
Adobe Flash Player
  Android browser plug-in, 12
  defined, 10
  filtering objects, 117
  native deployment, compared to, 21–29
  `Vector` object, introducing, 164
  video files, 193–194
Adobe Flash Professional (Flash IDE)
  AIR for Android setup, 49–50
  Align panel in, 75
  Android Developer tools, compared to, 309
  animation methods, 221–226
  auto-completion, 45
  browser-based setup, 46–49


COPYRIGHTED MATERIAL

Adobe Flash Professional *(continued)*
code hinting, 45
code-editing environment choices, 45
compiling and packaging feature, 44–45, 293, 351
debugging devices with, 389–392
defined, 10
as development tool (website), 2
document settings, 51–54
Drawing API, 431–432
file types available for importing to play back, 200
Google Analytics libraries configuration, 186–187
graphics preparation, 62–66
introduction, 43–44
iOS setup, 51
keeping device awake, 242–243
Library panel in, 56, 63, 71–72
`MovieClip` creation, 63–66
native feature support from mobile OS's, 28–29
navigating around, 54–56
packaging feature, 44–45, 293, 351
resource sharing, 45–46
screen dimensions, 54, 98
starting a project, 46–51
Timeline in, 56, 90
`URLMonitor` setup, 167–168
Adobe Flex SDK
creating an application, 278–282
debugging code on devices, 282–290, 392–394, 395–397
introduction, 269–272
starting a project, 272–277
ADT (AIR Developer Tool), 32, 35
After Publishing settings, AIR for Android, 299
A-GPS (Assisted Global Positioning System), 251
AIR Debug Launcher (ADL), 83
AIR Developer Tool (ADT), 32, 35
AIR for Android. *See also* Android Developer tools
Application Descriptor File modification, 303–304
compiling and packaging for, 32–34, 293–307
icon images for device, 293–295, 402
origins of, 13
overview, 11
publish settings, 295–303
setup in Flash Professional, 49–50
signing your digital certificate, 304–306
testing on a device, 388–389, 391–392
AIR for Android Settings dialog box, 295–303
AIR for iOS
Application Descriptor File modification, 361–363
CER-to-P12 certificate conversion, 363–366
compiling and packaging for, 34–35, 351–368
icon images for iOS device, 351–353
publish settings, 356–361
signing digital certificate, 366–367
start screen for iOS device, 354–356
testing on a device, 388–391
AIR for iOS Settings dialog box, 356–361
`aircore.swc`, 167–168
Akamai (Content Delivery Network), 202, 207
alert/notification sounds, embedding, 198–200
Align panel in Flash Professional, 75
`alpha` property, 436
Android Debug Bridge (ADB) tool, 314–315, 317–318
Android Deployment type setting, 299
Android Developer tools
connecting a device to computer, 315–317
installing software on computer, 310–315
installing your app on a device, 317–318
introduction, 309
screen shot capture from device, 319–321
Android Emulator (website), 299
Android Market
deploying your app to, 399–407
screen shot requirements for app uploads, 319, 321
user data protection rules, 167
Android OS. *See also* AIR for Android
browser plug-in for Flash Player, 12
defined, 10
digital certificate requirements, 27
fees and license agreements for developers, 24, 27
Flash compatibility with, 9
preinstalled fonts, 77

support for native features, 28–29
TweetDeck, 18–19
user data protection, 167
Android PacKage (APK) file. *See* APK (Android PacKage) file
animation
with ActionScript code, 226–232
collision detection, 236–240
CPU costs of using, 219–221
frame, 221–226
introduction, 219
libraries of, 232–235
Apache web server, streaming video through, 213
APK (Android PacKage) file
in compiling process, 293, 307
deployment type setting, 299
Draft Application .apk File, 402
introduction to, 32
testing on different OS's, 317–318
App ID, 296, 334–335, 360, 367
App Name, 296, 357
App Store Approval Process (website), 423–424
App Store Review Guidelines (website), 444
app stores, 25, 26, 40. *See also* Android Market; Apple App Store
App URL, metadata for iTunes Connect, 417
Apple, Inc.
Human Interface Guidelines, 60–61, 425, 444
objections to third-party code, 34
problems with Flash, 11–12, 13
on user data transmission protection, 166
Apple App Store
certification process, 323
data transmission/protection rules, 166–167
share of app purchase price for, 424
submitting app to
approval process, 423–424
criteria for submission, 443–444
cross-compilation method, 12
Distribution Provisioning Profile, 332, 339, 340–341, 410–411
introduction, 409
iTunes Connect application adding (website), 413–419
Mac OS requirement for, 2, 421–423
pricing decision, 424–425
reasons for rejection, 425–427
recompiling for distribution, 411–412
screen shots, 412, 445
uploading your app, 2, 419–423
success tips for dealing with, 443–447
time allowance for approval, 444
Apple ID, 324–325
Apple OS for mobile devices (iOS). *See also* AIR for iOS; iOS Developer Program
cross-compilation of Flash for, 12–14, 34
debugging your app for, 285–288
defined, 10
digital certificate for, 27, 328–332, 336–337, 341–346, 359, 363–367, 374–376
fees and license agreements for developers, 27, 166
Flash compatibility with, 9
Flight Control, 17–18
fonts for, 77
icon considerations, 294, 295
installing your app onto a device, 369–371
lack of support for Flash applications, 25
removing your app from a device, 371–372
restriction to native applications, 22
setup in Flash Professional, 51
support for native features, 28–29
application bar in Flash Professional, 55
Application Descriptor File, 303–304, 361–363
Application Loader, 421–423
Application Type field, Android Market upload, 405
ARM assembly code, 35
`Array`, 154, 164
Array data type for `SharedObject`, 151
Aspect Ratio publish setting, 297, 357
Assisted Global Positioning System (A-GPS), 251
asynchronous SQLConnection, 162, 177
audio, playing, 198–207
Auto Orientation setting, 297, 358
auto-completion feature, 45, 93
`autoplay` property, 214–215
availability date, 415
AVM2 (ActionScript Virtual Machine 2), 33

## • B •

background color setting, 51–53
Balsamiq (website), 37

bandwidth usage and App Store rejection, 425
battery usage consideration, 220, 242
bin-debug folder in Flash Builder, 275
bitmap caching, 62, 118–119, 435–436
Bitmaps, 63
bitwise operator, 125–126
Blackberry PlayBook, 12
BlurFilter, 117–118
Boolean variable in URLMonitor process, 169
Braunstein, Roger (author)
*ActionScript 3.0 Bible,* 132
breakpoints in Flash Builder, 275
browser-based application, 21–29, 46–49. *See also* Flash Player
Brush tool, Flash Professional, 66
bubbling of events, 115–117, 138–139, 433
Bullet and Bomb MovieClip creation, 63–66
Bundle ID list, 415
business logic layer of code, 271
Button, 63, 74
buttons with dynamic labels, creating, 74–77
buttonText property, 140

## • C •

cacheAsBitmap property, 118–119, 435–436
calls, using your app to initiate, 243–245
camera, 17
CAMERA permission setting, 302
Capabilities.screenResolutionX, 98–99
Capabilities.screenResolutionY, 98–99
Cascading Style Sheet (CSS) in Flex, 270
Category field, Android Market upload, 405
CDN (Content Delivery Network), 202, 207
cellular network, checking for user access, 215
certificate, digital
for Android, 27, 298, 304–306
freedom from in browser environment, 24
for iOS, 27, 328–332, 336–337, 341–346, 359, 363–367, 374–376
requirement for in native environment, 27
role in packaging process, 35, 39
Certificate setting, 298, 359
Certificate Signing Request (CSR), 328–332, 336–337, 375
CER-to-P12 certificate conversion, 363–366
CHANGE event, 115–116, 138
classes, Flash API list (website), 94. *See also individual class names*
code hinting feature, 45, 93
code-behind, defined, 95–96
code-editing environment, Flash Professional, 45
collapsed panel group in Flash Professional, 55
collision detection for animation sequences, 236–240
color for background, setting, 51–53
comments, adding to code, 382
compiling and packaging your application
for AIR for Android
Application Descriptor File modification, 303–304
compiling the APK file, 293, 307
icon images for device, 293–295
publish settings, 295–303
signing your digital certificate, 304–306
for AIR for iOS
Application Descriptor File modification, 361–363
CER-to-P12 certificate conversion, 363–366
compiling the IPA file, 35, 351, 357, 367–368
icon images for iOS device, 351–353
publish settings, 356–361
signing your digital certificate, 366–367
start screen for iOS device, 354–356
Flash Professional's feature for, 44–45, 293, 351
overview, 32–35, 38–39
computer, desktop/laptop. *See also* Mac OS; Windows OS
Adobe AIR for, 10
connecting a device to, 315–317
emulating your app on, 383–388
installing Android Developer tools on, 310–315
translating your app to mobile devices, 14–15
connect(), 194, 202
Consent section, Android Market, 406–407

Consent to the Android Content Guidelines field, Android Market upload (website), 407
constructor, 92
Contact Email Address, metadata for iTunes Connect, 417
Contact Information section, Android Market, 407
Content Delivery Network (CDN), 202, 207
Content Rating field, Android Market upload, 406
conventions for step-by-step instructions, 1–2
Copy Protection field, Android Market upload, 406
Copyright, metadata for iTunes Connect, 417
copyright consideration, 427
Creative Suite (CS) (website), 43
cross-compilation process for iOS, 12–14, 34
CSR (Certificate Signing Request), 328–332, 336–337, 375
CSS (Cascading Style Sheet) in Flex, 270

## • D •

Dalvik Debug Monitor Service (DDMS), 319–321
data entry and management
  forms, creating, 133–146
  introduction, 133
  persistent data, storing, 150–164
  validating and restricting data entry, 147–150
  `Vector` compared to `Array` objects, 164
data transmission
  Android's policy on, 166
  Apple's policy on, 166
  connectivity loss, dealing with, 177–179
  Internet connection notification (`URLMonitor`), 167–171
  introduction, 165
  preparing data for, 171–173
  response from storage server, handling, 175–177
  sending data with `URLLoader`, 173–175
  synchronization, 179–184
databases, local, 159–164
Date data type for `SharedObject`, 151
DDMS (Dalvik Debug Monitor Service), 319–321
Debug icon, Flash Builder, 275
debugging code on devices, 282–290, 299, 315–321, 389–397. *See also* testing your application
decoding of video, software compared to hardware, 201
`DefaultMediaFactory`, 210
deploying your application. *See also* Android Market; Apple App Store
  Adobe options, 12
  AIR for Android settings, 297–299
  AIR for iOS settings, 358–360
  browser compared to native, 21–29
  process of, 39
Description, metadata for iTunes Connect, 416
Description field, Android Market upload, 404
designing your application, 36–37
desktop/laptop computer. *See also* Mac OS; Windows OS
  Adobe AIR for, 10
  connecting a device to, 315–317
  emulating your app on, 383–388
  installing Android Developer tools on, 310–315
  translating your app to mobile devices, 14–15
Developer Certificate, iOS, 342
Developer Distribution Agreement, 400
development process, 36–40. *See also* Flash Builder 4.5; Flash Professional
Development Provisioning Profile, 332, 333–339
device, mobile
  accelerometer, 17, 246–251, 386–388
  advantages of, 16–17
  browser-based compared to native app's access to, 25, 26
  debugging your app for, 282–290, 299, 315–321, 389–397
  default fonts, 77
  orientation of, 261–267, 297, 358
  performance issues for hardware, 25, 124–126, 431–435
  resource bottlenecks, 381–383, 438–439
Device Central, 383–388, 435
Device ID, 332–333, 335, 373
Device publish setting, AIR for iOS, 358

digital certificate
  for Android, 27, 298, 304–306
  freedom from in browser environment, 24
  for iOS, 27, 328–332, 336–337, 341–346, 359, 363–367, 374–376
  requirement for in native environment, 27
  role in packaging process, 35, 39
Digital Rights Management (DRM) licensing system (website), 406
dimensions, screen, setting in Flash Professional, 54, 98
DISABLE_KEYGUARD permission setting, 302
display list, defined, 93
display objects. *See also* graphics
  avoiding stacking, 434
  moving with touch, 108–115
  multiple object initializing, 98–106
  toggling visibility compared to `alpha` property, 436
`DisplayObject`, 135, 255
Distribution Certificate, iOS, 342, 343–346, 374–376
Distribution Provisioning Profile—Ad Hoc, 332, 339–340, 372–378
Distribution Provisioning Profile—App Store, 332, 339, 340–341, 410–411
Document Class, creating, 89–93
document settings in Flash Professional, 51–54
Draft Application .apk File, 402
Drawing API, 85–88, 431–432
DRM (Digital Rights Management) licensing system (website), 406
dropout rate for user participation in your app, 187
dynamic labels for buttons, creating, 74–77

## • E •

E4X feature, ActionScript 3.0, 175–177
Easter eggs (humorous booby traps in app), 447
Eclipse IDE, 44, 271
editing code in Flash Professional, 45
Editor window, Flash Builder, 275
e-mail addresses, validating, 148–150
Email field, Android Market upload, 407
embedding fonts, 78
emulating your app on computer, 383–388, 435
encryption of stored user data, 166
`EnterButton MovieClip`, 146
`ENTER_FRAME`, 228–231, 238–240
environment variable for Android SDK in Windows, 311–313
`ErrorEvent`, 178–179
Essentials workspace in Flash Professional, 55–56
EULA (End User License Agreement), 418
`Event`, 93–95
event listeners
  assigning, 106–115, 123, 198
  initializing your app, 93–95
  memory management, relationship to, 123
  removing from objects, 120, 198, 397
  testing registrations, 382
events. *See also specific events*
  bubbling of, 115–117, 138–139, 433
  callback, compared to, 198
  defined, 93
  touch events for user interaction, 106–115, 255, 263–264
`execute()`, 164

## • F •

F4M file, 213
Feature Graphic field, Android Market upload, 403
feed reader Flex mobile application, 278–282
fees and license agreements for developers, 24, 27, 166, 400
filters, programmatic, 117–118, 436
Fireworks, 70
FLA (Flash Application) file, 32, 46, 58–59
Flash API classes list (website), 94
Flash Builder 4.5 (IDE). *See also* Flex SDK
  development environment orientation (website), 276
  as development tool (website), 2
  downloading and installing (website), 271–272
  Flash Professional, compared to, 45
  Network Monitor, 392–394
  Performance Profiler, 394–397
  starting a project, 272–277

"Flash Cookie". *See* Local `SharedObject`
Flash Lite, 21, 22
Flash Media Server (FMS), 201–208
Flash mobile application. *See also* specific topics
  application terminology, 9–11
  creation process
    certifying, 39
    compiling, 32–35, 38–39
    deployment process, 39
    introduction, 31
    packaging, 32–35, 39
    submitting to app store, 40
    testing, 38, 39–40
  description at Apple App Store, 445
  Google Analytics setup, 184–189
  importance of accuracy in title and description, 444
  introduction, 1–5, 21
  keeping device awake, 242–243, 302
  misconceptions about, 11–13
  quality features, 14–19
Flash Player
  Android browser plug-in, 12
  defined, 10
  filtering objects, 117
  native deployment, compared to, 21–29
  `Vector` object, introducing, 164
  video files, 193–194
Flash Professional (Flash IDE)
  AIR for Android setup, 49–50
  Align panel in, 75
  Android Developer tools, compared to, 309
  animation methods, 221–226
  auto-completion, 45
  browser-based setup, 46–49
  code hinting, 45
  code-editing environment choices, 45
  compiling and packaging feature, 44–45, 293, 351
  debugging devices with, 389–392
  defined, 10
  as development tool (website), 2
  document settings, 51–54
  Drawing API, 431–432
  file types available for importing to play back, 200
  Google Analytics libraries configuration, 186–187
  graphics preparation, 62–66
  introduction, 43–44
  iOS setup, 51
  keeping device awake, 242–243
  Library panel in, 56, 63, 71–72
  `MovieClip` creation, 63–66
  native feature support from mobile OS's, 28–29
  navigating around, 54–56
  packaging feature, 44–45, 293, 351
  resource sharing, 45–46
  screen dimensions, 54, 98
  starting a project, 46–51
  Timeline in, 56, 90
  `URLMonitor` setup, 167–168
Flash Video (FLV) files, 193–194
Flex SDK
  creating an application, 278–282
  debugging code on devices, 282–290, 392–394, 395–397
  introduction, 269–272
  starting a project, 272–277
FlexUnit (website), 131
Flight Control, 17–18
FLV (Flash Video) files, 193–194
FMS (Flash Media Server), 201–208
focus, defined, 134
`FOCUS_IN`, 134–139
`FOCUS_OUT`, 134–139
fonts, 77–85, 441
Fonts iPhone application (website), 77–78
`for` loops, modifying for efficient performance, 124
forms, 133–146, 173–175
frame animation, 221–226
frame rate (FPS), 53–54, 130, 434
frames in Flash Professional, 56
Full Screen publish setting, 297, 357

## • G •

`gaforflash` libraries, 186–187
games and gaming
  accelerometer, relationship to, 17
  SpaceshipZapZap, 19–20
Garbage Collector, 120
`genrsa` command, 329
geolocation, 17, 251–254, 302, 437–438

Geolocation, 252
GeolocationEvent, 252
Geonames (website), 171
GestureEvent, 255, 256–261, 264–265
GesturePhase, 255
GET, 172–173
getter (accessor) method, 144
Git (website), 90
Github (website), 38
Global Positioning System (GPS), 17, 251–252
Google Analytics, 184–189
Google Android OS. *See also* AIR for Android
  browser plug-in for Flash Player, 12
  defined, 10
  digital certificate requirements, 27
  fees and license agreements for developers, 24, 27
  Flash compatibility with, 9
  preinstalled fonts, 77
  support for native features, 28–29
  TweetDeck, 18–19
  user data protection, 167
Google ID, 399–400
Google Maps, 245–246
Google SDK Manager, 290
GPS (Global Positioning System), 17, 251–252
GPU (graphics processing unit), 118–119, 220, 297, 358, 433
gradient tools, 66–70
graphics. *See also* icons
  Drawing API, 85–88, 431–432
  importing external, 70–74, 84
  JPG files, 353
  PNG files, 62, 70, 353
  preparation in Flash Professional, 62–66
Graphics class, 85
graphics processing unit (GPU), 118–119, 220, 297, 358, 433
GTween animation library, 232–235

## • H •

H.264 video, GPU capability with, 201
Halo, 270–271
Hello Event application, 256–258
"Hello World" application, 57–59
High Resolution Application Icon field, Android Market upload, 402
HighScoreSubmit code, 141–146
HTTP, streaming video over, 212–213
HTTPS compared to HTTP URLs, 166
HTTPService in Flex, 278–279
Human Interface Guidelines (HIG), Apple (website), 60–61, 425, 444

## • I •

icons
  AIR for Android, 293–295, 402
  AIR for iOS, 351–353, 418
  overview of application, 25, 26
  used in book, 5
Icons settings for files, 299–300, 360–361
id attribute in MXML, 271
images. *See also* icons
  Drawing API, 85–88, 431–432
  importing external, 70–74, 84
  JPG files, 353
  PNG files, 62, 70, 353
  preparation in Flash Professional, 62–66
import directive, 152
importing external graphics, 70–74, 84
Included Files publish setting, 297, 358
information architecture, 36–37, 57
information load, balancing for mobile devices, 440–441
initialize(), 94–95
initializing a class, defined, 92
initializing your application, 92, 93–95
int (integer), 125–126
int data type for SharedObject, 151
Integrated Development Environment (IDE), 43. *See also individual IDEs*
interaction design, 37, 57
interaction metaphors, adapting your app for, 16
InteractiveObject, 258
Internet connectivity
  App Store acceptance, providing for, 426
  browser-based compared to native apps, 24–25, 26
  for data transmission, 165, 167–171, 177–179
  virtue of not requiring, 441–442
INTERNET permission setting, 302
interpreted code, Apple's opposition to third-party, 34

iOS (Apple OS for mobile devices). *See also* AIR for iOS; iOS Developer Program
  cross-compilation of Flash for, 12–14, 34
  debugging your app for, 285–288
  defined, 10
  digital certificate for, 27, 328–332, 336–337, 341–346, 359, 363–367, 374–376
  fees and license agreements for developers, 27, 166
  Flash compatibility with, 9
  Flight Control, 17–18
  fonts for, 77
  icon considerations, 294, 295
  installing your app onto a device, 369–371
  lack of support for Flash applications, 25
  removing your app from a device, 371–372
  restriction to native applications, 22
  setup in Flash Professional, 51
  support for native features, 28–29
iOS Deployment Type publish setting, 360
iOS Developer Agreement (website), 166
iOS Developer Program
  digital certificate process, 328–332
  introduction, 323
  joining the program, 326–328
  obtaining your certificate, 341–346
  provisioning profile, 332–341, 346–350
  registering as developer, 323–326
iOS Provisioning Portal (website), 328, 363, 373, 410
iOS SDK (website), 60, 326
IPA (IPhone Application) file
  Flash Professional's support for creating, 34
  in packaging process, 35, 351, 357, 367–368
  recompiling for ad hoc distribution, 377–378
  Windows conversion to Mac OS, 420–421
iPad, 352, 358
iTunes, installing and removing your app with, 369–372
iTunes Connect, adding your app on (website), 413–419

## • J •

jail-breaking, 13
Java, 44, 310
JPG graphics file, 353

## • K •

`KEEP_AWAKE` property, 243
keyboard screen space, 146
Keychain Access utility, 331, 366
`KEY_DOWN`, 227–228
keyguard, disabling, 302
Keywords, metadata for iTunes Connect, 417, 426
Knuth, Donald (computer scientist), 126

## • L •

`LabelButton`, 74–77, 80, 83, 139–140
Language field, Android Market upload, 404
laptop/desktop computer. *See also* Mac OS; Windows OS
  Adobe AIR for, 10
  connecting a device to, 315–317
  emulating your app on, 383–388
  installing Android Developer tools on, 310–315
  translating your app to mobile devices, 14–15
layers in SDKs, 56, 271
libraries
  ActionScript component referencing, 95–98
  animation, 232–235
  Google Analytics, 186–187
  OSMF, 208–212
Library panel in Flash Professional, 56, 63, 71–72
`libs` folder in Flash Builder, 275
license agreements
  for developers, 24, 27, 166, 400
  EULA, 418
line numbers in Flash Builder, displaying, 275
Line properties, changing in vector drawing, 65
`List` in Flex, 278–282
listeners, event
  assigning, 106–115, 123, 198
  initializing your app, 93–95
  memory management, relationship to, 123
  removing from objects, 120, 198, 397
  testing registrations, 382

Listing Details section, Android Market, 404–405
Live Objects panel, Performance Profiler, 396
LLVM (Low Level Virtual Machine), 35
`load()`, 201
`LoadingGraphic`, 83–85
local databases, 159–164
Local `SharedObject`, 151–159
local variables, defined, 102
Locations field, Android Market upload, 406
loops, modifying for efficient performance, 124
Low Level Virtual Machine (LLVM), 35

## • M •

Mac OS
  CER-to-P12 certificate conversion, 365–366
  CSR generation in, 331–332
  installing Android SDK on, 314–315
  installing provisional profile on iOS device, 349–350
  uploading to App Store from, 2, 421–423
Macromedia, 44
Macromedia eXtensible Markup Language (MXML), 270–271
main menu in Flash Professional, 55
maps, using your app to access, 243, 245–246
Marketing Opt-Out field, Android Market upload, 404
marketing your application, 445–446. *See also* Android Market; Apple App Store
`Math.floor`, 125–126
MAX (maximum memory), displaying, 130
McCauley, Trevor (author) (website), 117
`MediaContainer`, 210
`MediaElement`, 210
`MediaPlayer`, 210
MEM (memory), analysis of usage, 130
memory leak, 120, 394, 397
memory management, 120–123
Memory Usage panel, Performance Profiler, 395
metadata for your application at App Store, 416–418
microphone activation, permission setting for, 302
Microsoft Visual C++ 2008 Redistributables, 329
milestones, setting up development, 38
mobile device
  accelerometer, 17, 246–251, 386–388
  advantages of, 16–17
  browser-based compared to native app's access to, 25, 26
  debugging your app for, 282–290, 299, 315–321, 389–397
  default fonts, 77
  orientation of, 261–267, 297, 358
  performance issues for hardware, 25, 124–126, 431–435
  resource bottlenecks, 381–383, 438–439
motion detection with accelerometer, 246–251
motion tween animation method, 224–226
`MouseEvent`, 106–115, 255, 264
`MovieClip`. *See also* data entry and management
  creating, 63–66
  Document Class associations, 90
  Drawing API, 85–88
  dynamic labels for buttons, 74–77
  `EnterButton`, 146
  for frame-by-frame animation, 221–223
  gradient tools, 66–70
  importing external graphics, 70–74
  `LoadingGraphic`, 83–85
  for motion tween animation, 224–226
  `StartScreen` assembly, 80–83
  `TextEntry`, 78–80, 134–139, 147–148
MP3 or other sound files, 199–201, 206
MP4 files, 206
MS (milliseconds), rendering time, 130
multiplying compared to adding or dividing, speed of, 125
`Multitouch`, 255, 263–264
multitouch gestures, 16, 254–261, 263–264, 266–267
`MultitouchInputMode`, 255, 266–267
`Multitouch.maxTouchPoints`, 266
music sound files, 199–201, 206
MXML (Macromedia eXtensible Markup Language), 270–271

## • N •

native applications, 10, 22–29
NativeApplication, 243, 386
navigateToURL(), 243–244
NetConnection, 194–197, 202–207
NetStatusEvent (website), 203
NetStream, 195–197, 202, 204–207
network connectivity
  App Store acceptance, providing for, 426
  browser-based compared to native apps, 24–25, 26
  for data transmission, 165, 167–171, 177–179
  interfaces for device, 302
  virtue of not requiring, 441–442
Network Monitor in Flash Builder, 392–394
NetworkInfo, 215–218
NetworkInterface, 215–218
notification/alert sounds, embedding, 198–200
null, 121, 123
Number data type for SharedObject, 151

## • O •

Object data type for SharedObject, 151
object pooling, 121–123, 432
objectionable content, 425–426
Objective-C, 12, 13, 44
offline mode, advantages of using, 441–442
online storage of user data. *See* data transmission
Open Source Media Framework (OSMF), 44–45, 208–212, 213
OpenSSL (website), 329
orientation, device, 261–267, 297, 358
ORIENTATION_CHANGE event, 262–263
O'Rourke, Jodie (author) (website), 5
OSMF(), 210–212
OSMF (Open Source Media Framework), 44–45, 208–212, 213
Outline panel, Flash Builder, 275
Output File setting, 296, 357
overhead consideration in pricing, 424

## • P •

P12 (Personal Information Exchange) file, 305, 363–366
Package Explorer panel, Flash Builder, 275
Packager for iPhone, 11, 28, 34–35
packaging your application, 32–35, 39. *See also* compiling and packaging
parsing web server responses to data transmission, 175–177
password for P12 certificate, 364
Password setting, 298, 359
performance issues for device hardware, 25, 124–126, 431–435
Performance Profiler in Flash Builder, 394–397
PerformanceTest (website), 126–130
Permission settings for AIR for Android, 301–303
persistence of vision, defined, 434
persistent data, storing, 150–164
Phone field, Android Market upload, 407
play(), 199
playhead in Flash Professional, 56
plist.info, 415
PNG graphics files, 62, 70, 353
POST.GET, 172–173
power considerations, 220, 242
presentation layer of code, 271
PressAndTapGestureEvent, 255, 258–259
Price field, Android Market upload, 405
pricing decision for your application, 424–425, 447
Primary Category, metadata for iTunes Connect, 416
PRIMARY KEY, 162
primary key consideration in databases, 164
priority parameter, 123
private key file, creating for CSR, 329–330, 331–332
private keyword, 102
Problems panel, Flash Builder, 275
Profile panel, Performance Profiler, 395
programmatic filters, 117–118, 436
progressive video download, 193–198

Promo Text field, Android Market upload, 404
Promotional Graphic field, Android Market upload, 402
Promotional Video field, Android Market upload, 403
Properties panel in Flash Professional, 56
`property` key in database table, 162
Provisioning Profile settings, AIR for iOS, 359
provisioning profiles
  Development Provisioning Profile, 332, 333–339
  Distribution Provisioning Profile—Ad Hoc, 332, 339–340, 372–378
  Distribution Provisioning Profile—App Store, 332, 339, 340–341, 410–411
  iOS Developer Program, 332–341, 346–350
pseudo-class name, 95
`public` keyword, 102
publish settings
  AIR for Android, 295–303
  AIR for iOS, 356–361
Publisher Account at Android Market (website), 399–400
Publishing Options section, Android Market, 405–406

## • Q •

QuickTime, 200

## • R •

rating for content, 406, 418
READ_PHONE_STATE permission setting, 302
Real-time Media Protocol (RTMP), 201, 213
Recent Changes field, Android Market upload, 404
RECORD_AUDIO permission setting, 302
recycling objects in your application, 121–123, 432
`RegExp` (regular expression), 148–150
registering user interaction events, 106–117
rejection reasons from Apple App Store, 425–427
Remember icon, defined, 5
remote debugging, defined, 277, 389
Remote `SharedObject`, 151
`removeChild()`, 108, 239–240, 433
`removeEventListener()`, 120, 198
Render Mode publish setting, AIR for Android, 297
Rendering publish setting, AIR for iOS, 358
rendering text and font, 77–85
request to web server, defined, 171
Resolution publish setting, AIR for iOS, 358
resource sharing feature, 45–46
`restrict` property, 147–148
restricting characters for user data entry, 147–148
Review Notes, metadata for iTunes Connect, 418
reviews from users, responding to, 439–440, 444
RIM OS, 12
rotation gesture, coding, 259–261
RTMP (Real-time Media Protocol), 201, 213
Run icon, Flash Builder, 275

## • S •

screen lock, disabling, 302
screen shot, 319–321, 354–355, 412, 418, 445
Screenshots field, Android Market upload, 402
Secondary Category, metadata for iTunes Connect, 417
Secure Sockets Layer (SSL), 166
`SELECT` query, 162–164
self-signing of digital certificate, 27, 298, 305–306
server, web data storage, 171, 175–177
`SharedObject`, 151–159
ShockWave Flash (SWF) file, 32, 35, 62
Short Message Service (SMS), 243, 245
`SimpleButton`, 139
single-touch access to app, 25
Skinner, Grant (programmer) (website), 126, 130
SKU (Stock-Keeping Unit) number, 415
sleep mode, preventing, 242–243, 302
smartphone. *See* mobile device
SMS (Short Message Service), 243, 245
`Sound`, 200
source control software, 38, 90
SourceForge (website), 209–210
SpaceshipZapZap (website), 19–20, 71
Spark, 270–271

splash screen as start screen for iOS app, 355–356
Sprite, 86, 90, 99, 102–106
SQL (Structured Query Language), 159–160
SQLConnection, 162
SQLConnection.open(), 162
SQLConnection.openAsync(), 162
SQLite database, 160
SQLStatement, 162–164
square bracket notation, minimizing, 124
src folder in Flash Builder, 275
SSL (Secure Sockets Layer), 166
stage in Flash Professional, 55
StageOrientationEvent, 261–262
start screen, 354–356
StartButton, 106–108
StartScreen, 80–83, 95–98, 106–108
Stats utility (website), 130
STATUS event, 167, 169–170
stickiness (repeat visits to websites), 440
stop(), 183–184
stopPropagation(), 115–117, 138–139
storage of code, 38
storage of user data. *See* data transmission
streaming video/audio, 201–207, 212–213
String data type for SharedObject, 151
strong references, using, 125
Structured Query Language (SQL), 159–160
subclass, 89–90
Subversion (website), 90
Support URL, metadata for iTunes Connect, 417
supportsGestureEvents, 264–265
supportsTouchEvents, 264
SWF (ShockWave Flash) file, 32, 35, 62
swipe gesture, 16
switch, 203
synchronization of data, 179–184
synchronous SQLConnection, 162
System.privateMemory property, 123, 126

## • T •

tapLocalX, 258
tapLocalY, 258
tapStageX, 258
tapStageY, 258
tax consideration, 425
Technical Stuff icon, defined, 5
Teehan LAX (website), 60–61
tel URL schema, 244
test(), 150
testing your application
  during development, 126–132
  Development Provisioning Profile, 332, 333–339
  on a device, 317–318, 388–392, 439
  at Device Central, 383–388, 435
  distributing your iOS app to testers, 372–378
  in Flash Builder, 275
  Human Interface Guidelines, 61
  introduction, 381
  with Network Monitor in Flash Builder, 392–394
  overview, 38, 39–40
  with Performance Profiler in Flash Builder, 394–397
  pulling your app to make a correction, 446
  regular expressions (website), 148–150
  for resource bottlenecks, 381–383, 438–439
text and font rendering, 77–85
text messages, using your app to initiate, 243, 245
TextEntry Movie Clip, 78–80, 134–139, 147–148
TextField
  bubbling events, stopping, 115–117
  efficiency tips, 124
  labels for buttons, 74
  rendering text and font, 77
  in StartScreen MovieClip, 80–83
  in TextEntry MovieClip, 78–80
  user entry relationship, 134
Thawte.com (website), 166
Timeline in Flash Professional, 56, 90
Tip icon, defined, 5
Title field, Android Market upload, 404
Tools panel in Flash Professional, 56
touch screen
  adapting desktop apps to, 15
  adjusting for fat fingers, 438
  device-supported touch points, 265–266
  multitouch gestures, 16, 254–261, 263–264, 266–267
  single-touch access to app, 25
  touch events for user interaction, 106–115, 255, 263–264
  user gestures, 16, 265

TouchEvent, 255, 263–264
trace(), 91
trackPageview, 188–189
Transform tool in Flash Professional, 62
TransformGestureEvent, 255, 259–261
transmission, data
  Android's policy on, 166
  Apple's policy on, 166
  connectivity loss, dealing with, 177–179
  Internet connection notification (URLMonitor), 167–171
  introduction, 165
  preparing data for, 171–173
  response from storage server, handling, 175–177
  sending data with URLLoader, 173–175
  synchronization, 179–184
TweetDeck, 18–19

## • U •

uint data type for SharedObject, 151
updating your application, 440, 446–447
Upload Assets section, Android Market, 402–404
uploading your application, 401–407, 419–423
URLLoader, 173–175, 178–179, 182–183
URLMonitor, 167–171, 180–183
URLRequest, 169, 171–173, 180–181, 201, 244
URLRequestMethod, 172–173
URLResource, 210
URLVariables, 172, 182
usability testing, 61, 372–378
useCapture parameter, 123
user interaction event registration, 106–117
user interface (UI). *See also* touch screen
  adapting to mobile devices, 15
  adjusting for fat fingers, 438
  buttons with dynamic labels, 74–77
  designing app for, 36–37
  Drawing API, 85–88
  fonts, 77–85, 441
  gradient tools, 66–70
  "Hello World" application, 57–59
  Human Interface Guidelines, 60–61
  importing external graphics, 70–74
  information load balancing, 440–441
  introduction, 57
  isolating code bottlenecks, 438–439
  text rendering, 77–85
  using existing metaphors, 442
  visual assets, 62–66
user-agent string, 23
users. *See also* data entry and management; data transmission
  data protection rules for, 166–167, 184, 427
  dropout rate for participation in your app, 187
  EULA (End User License Agreement), 418
  providing control over video file playing, 214–218
  reviews, responding to, 439–440, 444
  website for communication with, 446
useWeakReference parameter, 123

## • V •

validating user data entry, 148–150
Vector, 99, 102–103, 121, 164
Vector data type for SharedObject, 151
vector graphics preparation in Flash Professional, 62–66
Version Label publish setting, 297
Version Number, metadata for iTunes Connect, 416
Version publish setting, 297, 357
video
  minimizing code activity during, 434–435
  OSMF code library, 208–212
  playing progressive FLV files, 193–198
  streaming over HTTP, 212–213
  streaming with FMS, 201–208
  user control over playing, 214–218
Video, 205, 206–207
visible property, 436

## • W •

WAKE_LOCK permission setting, 302
Warning! icon, defined, 5
web browser-based application, 21–29, 46–49. *See also* Flash Player
web services, 171
Web Site field, Android Market upload, 407
website for user/developer communication, 446

websites
Acknowledge the Export Compliance field, Android Market upload, 407
Adobe Creative Suite (CS), 43
Adobe Developer Conection, 117
Adobe Flash Builder 4.5 (IDE), 2, 271–272, 276
Adobe Flash Professional (Flash IDE), 2
Android Emulator, 299
Apache Module tutorial, 213
App Store Approval Process, 423–424
App Store Review Guidelines, 444
Apple App Store, 413–419
Balsamiq, 37
Consent to the Android Content Guidelines field, Android Market upload, 407
DRM (Digital Rights Management) licensing system, 406
Flash API classes list, 94
FlexUnit, 131
Fonts iPhone application, 77–78
Geonames, 171
Git, 90
Github, 38
Human Interface Guidelines (HIG), Apple, 60–61, 425, 444
iOS Developer Agreement, 166
iOS Provisioning Portal, 328, 363, 373, 410
iOS SDK, 60, 326
`NetStatusEvent`, 203
OpenSSL, 329
PerformanceText, 126–130
Publisher Accountant at Android Market, 399–400
SourceForge, 209–210
SpaceshipZapZap, 19–20, 71
Stats utility, 130
Subversion, 90
Teehan LAX, 60–61
Thawte.com, 166
Wi-Fi connection, checking for, 215–218, 302
Windows OS
CER-to-P12 certificate conversion, 364–365
CSR generation in, 328–331
installing Android SDK on, 310–314
installing provisional profile on iOS device, 346–349
restrictions on uploading to App Store from, 420–421
wireframes, 37
WRITE_EXTERNAL_STORAGE permission setting, 302
WSG-84 location coordinates standard, 252

## • X •

Xcode development software, 44, 419, 421
XML data type for `SharedObject`, 151
`XML` object, 176
XML response data from web server, parsing, 175–177